DC-8 - AFRC 04/29/19 - 04/30/19

Aircraft: DC-8 - AFRC (See full schedule)
Flight Number: 1324
Payload Configuration: DAWN, HALO, YES Dropsondes, POS AV, DACOM, DLH
Nav Data Collected: Yes
Total Flight Time: 7.9 hours
Submitted by: Charles E. Irving on 05/06/19
Flight Segments:

From:	KPMD	**To:**	KPMD
Start:	04/29/19 20:38 Z	**Finish:**	04/30/19 04:33 Z
Flight Time:	7.9 hours		
Log Number:	198008 - Completed as of this flight.		
Funding Source:	Jack Kaye - NASA - SMD - ESD Director Research and Analysis		
Purpose of Flight:	Science		
Comments:	The first goal was to attempt to characterize DAWN focus and performance over a thick stratocu deck using data over the same exact segment but at varying altitude, from 10 kft up to 34 kft in 6 kft increments. Another GPS system issue caused problems during the 16 kft segment. Aside from the hiccup at 16 kft, we felt the experiment was successful. Almost full wind profiles were retrieved even at 34 kft. Post campaign analyses will be required to characterize DAWN focus. The flight then proceeded to a relatively clear sky region, with the goal of flying 3 segments from 25 to 39 kft at 7 kft increments. Sondes were supposed to be dropped at the midpoint of each segment, and then we would spiral around the sonde drop locations to an altitude of 500 feet above water. The DLH instrument insitu water vapor measurements were to be used to validate both the sonde and HALO measurements. Sondes have demonstrated a lag in adjusting to the environment after leaving the pressurized aircraft cabin. We sought to quantify that lag. Unfortunately air traffic control (ATC) was very uncooperative with our plan. They let us do a segment at 25 kft, then 32 kft. They negated the 39 kft segment, so we planned to double up and do another 32 kft segment. ATC then dropped us down to 29 kft instead of 32 kft which was frustrating to all involved. We still decided to do the spiral around the 3 sonde drop locations down to 500 feet which will provide useful comparisons with DLH, but not quite as impactful as being able to validate HALO and Yankee upper troposphere water vapor from 39 kft. We then proceeded to the Aeolus overpass, arriving about 15 mins ahead of the satellite. Broken stratocumulus were beneath the aircraft which often allowed DAWN and HALO to see into the PBL. We dropped 5 sondes along Aeolus track, and then the final sonde in our repository on the leg home.		

Flight Hour Summary:

	198008
Flight Hours Approved in SOFRS	43
Total Used	44.6
Total Remaining	-1.6

198008 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
04/17/19 - 04/18/19	1320	Science	9.5	9.5	33.5	0
04/22/19 - 04/23/19	1321	Science	7.1	16.6	26.4	0
04/25/19 - 04/26/19	1322	Science	10	26.6	16.4	0
04/27/19 - 04/28/19	1323	Science	10.1	36.7	6.3	4398
04/29/19 - 04/30/19	1324	Science	7.9	44.6	-1.6	0

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

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